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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,990

07/21/2006

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EXAMINER

WHITTINGTON, KENNETH

ART UNIT

PAPER NUMBER

2862

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,990	Applicant(s) YABE ET AL.	
	Examiner KENNETH J. WHITTINGTON	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/21/06, 10/30/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Information Disclosure Statement***

The information disclosure statement (the forward to the USPTO of the International Preliminary Report on Patentability) filed October 30, 2007 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 6, 9, 10, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Nachtigal et al. (US2005/0275565), hereinafter Nachtigal.

Regarding claim 1, Nachtigal discloses a magnetic encoder comprising:

a magnet portion substantially in a circular ring shape magnetized in multi-poles in a circumferential direction (See Nachtigal FIGS. 1-3, item 36, 136 or 236),

wherein the magnet portion includes a magnetic member and a thermoplastic resin (See paragraphs 0019-0050).

Regarding claim 2, Nachtigal discloses the thermoplastic resin includes at least a thermoplastic resin having a soft segment in a molecule (See paragraphs 0019-

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0050, note multiple combinations for the thermoplastic material).

Regarding claim 6, Nachtigal discloses the magnet portion is formed by injection molding (See paragraph 0011).

Regarding claim 7, Nachtigal discloses a fixed member including a magnetic material attached with the magnet portion (See FIGS. 1-5, item 26, 126 or 226),

wherein the magnetic portion and the fixed member are bonded by an adhering agent (See paragraph 0049) in which curing reaction is progressed in the injection molding (See paragraph 0011).

Regarding claims 9, 10, 12 and 13, Nachtigal discloses a bearing for a wheel comprising the magnetic encoder (See paragraph 0048).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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Claim 3, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtigal in view of Bandyopadhyay et al. (US6872325), hereinafter Bandyopadhyay.

Regarding claim 3, Nachtigal teaches the features of claim 1, noted above, and further the use of a polyamide and polyether blended thermoplastic (See Nachtigal paragraph 0032), but not explicitly such a mixture with one of polyamide 11, 12 or 612. Bandyopadhyay teaches a method of making polymeric bonded resin magnets comprising the thermoplastic resin having a soft segment in a molecule is a block copolymer having a hard segment comprising, polyamide and a soft segment of polyether component, and is mixed with at least one kind of normal polyamide selected from a group of polyamide 12 polyamide 11 and polyamide 612 (See Bandyopadhyay col. 4, line 43 to col. 5, line 17, note blends of ingredients are contemplated in the disclosure). It would have thus been obvious at the time the invention was made to incorporate the added groups of polyamides or nylons in the thermoplastic of Nachtigal as taught by Bandyopadhyay. One having ordinary skill in the art would do so to develop a polymeric magnetic composition having heat stability, mobility, workability, strength high

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magnetic permeability (See Bandyopadhyay col. 2, lines 3-13).

Regarding claims 11 and 14, this combination teaches a bearing for a wheel comprising the magnetic encoder (See Nachtigal paragraph 0048).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtigal in view of Abe et al. (US7229708), hereinafter Abe. Regarding this claim, Nachtigal teaches the features of claim 1 above and further a fixed member made of a magnetic material attached with the magnet portion (See Nachtigal FIGS. 1-5, note item 26, 126 or 226), wherein, the magnet portion and the fixed member are bonded by an adhering agent (See paragraph 50). However, Nachtigal does not explicitly teach the material for this adhesion. Abe teaches a magnetic encoder comprising mounting a magnet to a steel material using at least one of a phenol resin based and an epoxy resin based (See Abe col. 1, lines 45-51). It would have been obvious at the time the invention was made to use the adhesives noted in Abe to mount the magnet to the steel fixed member of Nachtigal. One having ordinary skill in the art would do so because as noted in Nachtigal, some adhesive is used

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and as noted in Abe, use of either epoxy or phenol as an adhesive between steel plates and magnets provides an encoder with water resistance (See Abe col. 1, lines 41-44). Furthermore, one having ordinary skill in art would simply look to Abe for a method to affix a magnet to steel parts in view of the lack of disclosure of such in Nachtigal.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtigal in view of Abe as applied to claim 4 above, and further in view of Norimatsu (JP2003/057070). Regarding this claim, Nachtigal in view of Abe teaches the features of claims 1 and 4 as noted above, but not any roughening. It is well known and further Norimatsu teaches a magnetic encoder having a magnet affixed onto a steel plate or fixed member wherein at least a bonding face of the fixed member to the magnet portion is subject to a roughening treatment (See Norimatsu FIG. 1, items 11 and 14 and see paragraphs 0005 and 0019-0024). It would have been obvious to provide a roughened surface on the steel fixed member before adhesively mounting the magnet in the noted combination as taught by Norimatsu. One having ordinary skill in the art would do

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so raise the adhesion of the mounting of the magnet (See Norimatsu paragraph 0004).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtigal in view of Loubier (US4549157). Regarding this claim, Nachtigal teaches the features of claims 1 and 6 as noted above and further using injection molding to make the magnet, but not the particular molding type. Loubier teaches a method of injection molding a plastic bonded magnet wherein the mold uses a disk gate to inject the plastic bonded magnet into the mold (See Loubier col. 3, lines 9-28 for the magnetic material and see FIG. 5 and discussion related thereto for radial flow pattern, using an axial or center gate into mold, i.e., a disk gate). It would have been obvious at the time the invention was made to use a radial or disk gate in the molding apparatus of Nachtigal. One having ordinary skill in the art would do so to remove weld lines formed when using less than a full radial gate and uniformly disperse the magnetic particles in the mold (See Loubier col. 1, line 52 to col. 2, line 26 and col. 4, lines 20-33).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Kenneth J Whittington/
Primary Examiner, Art Unit 2862